

Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 1 of 16

FIG.1

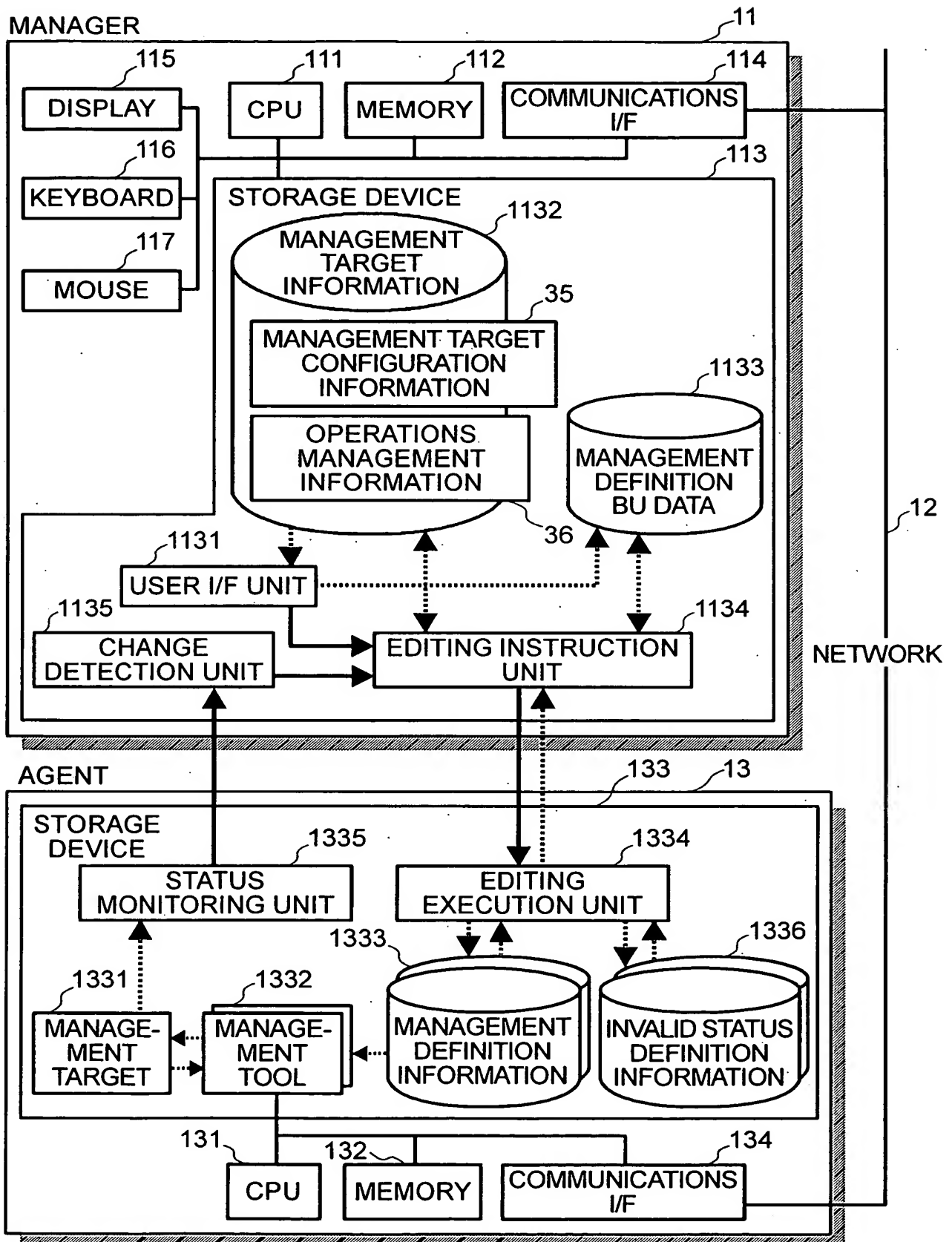
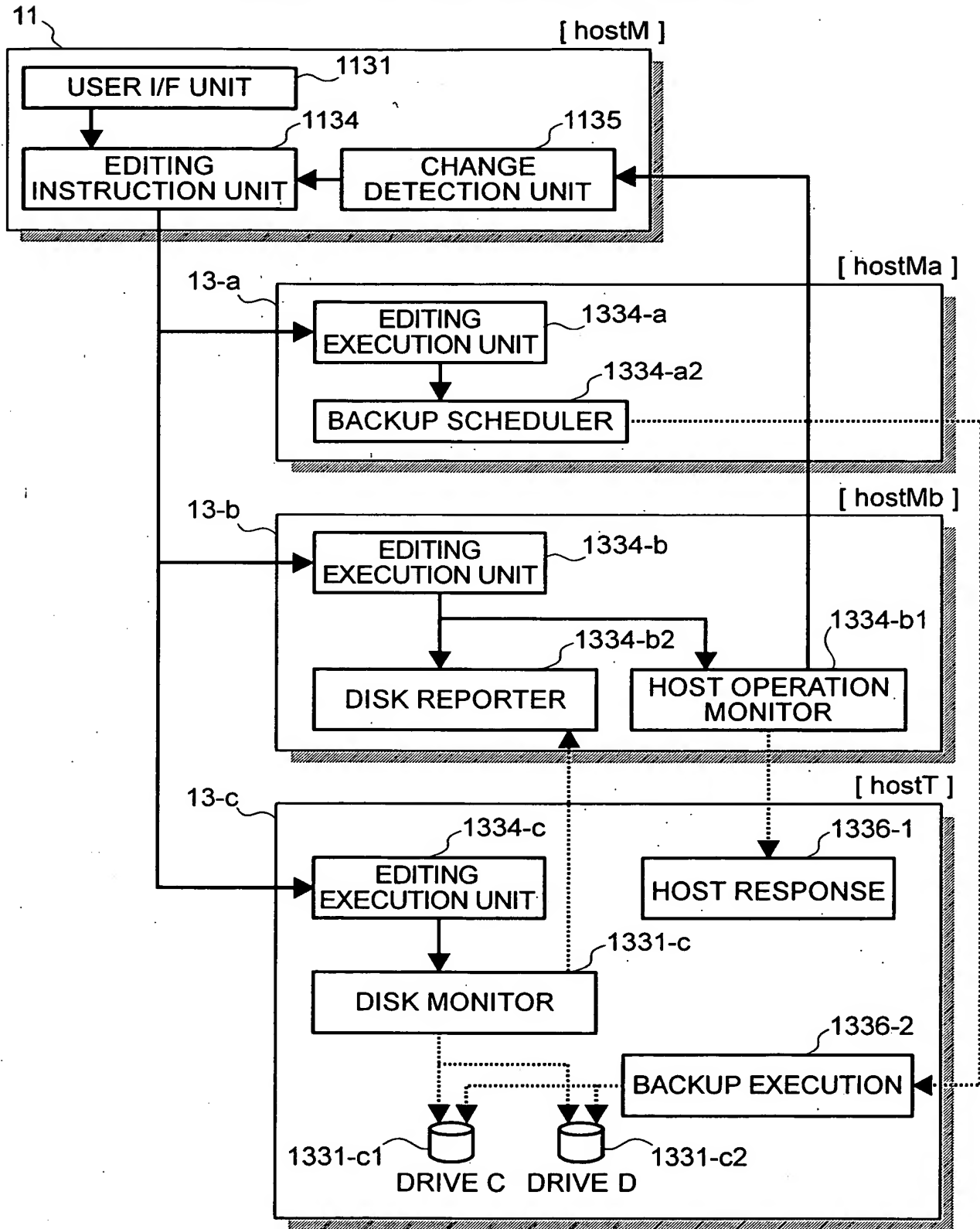


FIG.2

EXAMPLE OF SYSTEM CONFIGURATION



Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 3 of 16

FIG.3**MANAGEMENT DEFINITION INFORMATION 1: FOR BACKUP SCHEDULER**

| TASK ID | HOST NAME | BACKUP TARGET | EXECUTION CONDITION | VALIDITY |
|---------|-----------|---------------|------------------------|----------|
| 1 | host | C : | EVERY DAY 03:00 | VALID |
| 2 | hostT | D : | EVERY DAY 03:00 | VALID |

FIG.4**MANAGEMENT DEFINITION INFORMATION 2 :
FOR HOST OPERATION MONITOR**

| 321 | 322 |
|--------------|-----|
| hostT, hostM | |

FIG.5**MANAGEMENT DEFINITION INFORMATION 3 : FOR DISK REPORTER**

| HOST | MEASUREMENT ITEMS | MEASUREMENT TARGET |
|-------|-----------------------|--------------------|
| hostT | FREE CAPACITY OF DISK | C : |
| hostT | FREE CAPACITY OF DISK | D : |

FIG.6

MANAGEMENT DEFINITION INFORMATION 4 : FOR DISK MONITOR

| 341 MEASUREMENT ITEMS | 342 MEASUREMENT TARGET | 343 WARNING CONDITION |
|--------------------------|---------------------------|--------------------------|
| FREE CAPACITY OF DISK | C : | <10% |
| FREE CAPACITY OF DISK | D : | <15% |

FIG.7

FORMAT OF EDITING INSTRUCTION

| 211 LOCATION OF MANAGEMENT TOOL | 212 TYPE OF MANAGEMENT TOOL | 213 TYPE OF EDITING FUNCTION |
|---|-------------------------------------|--|
| 214 LOCATION OF MANAGEMENT TARGET | 215 TYPE OF MANAGEMENT TARGET | 216 MANAGEMENT TARGET IDENTIFIER |
| 217 OPTIONS | | |

Applicant: Kenichi KIHARA, et al.

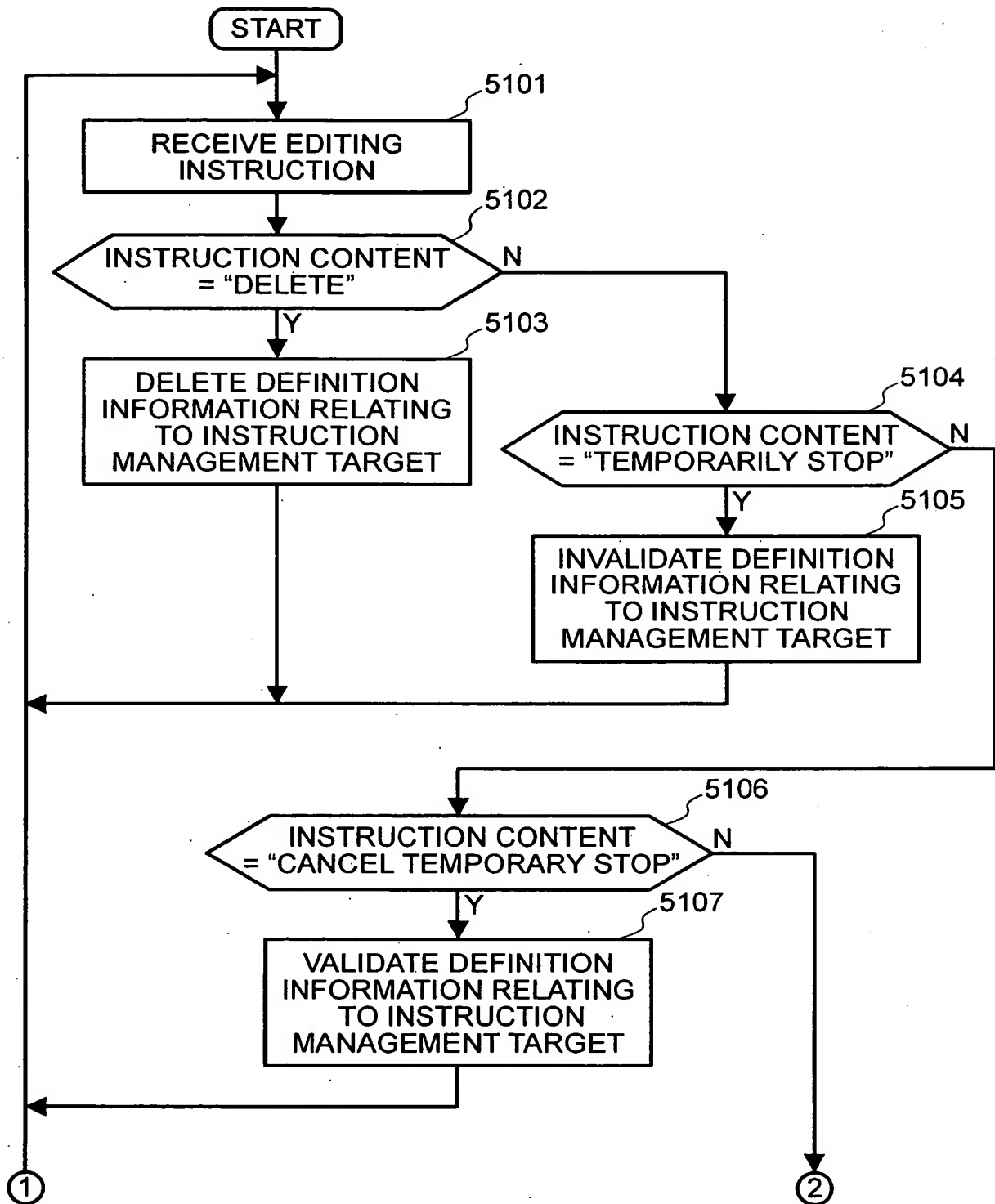
Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 5 of 16

FIG.8

FLOW CHART OF EDITING EXECUTION UNIT : 1



Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 6 of 16

FIG.9

FLOW CHART OF EDITING EXECUTION UNIT : 2

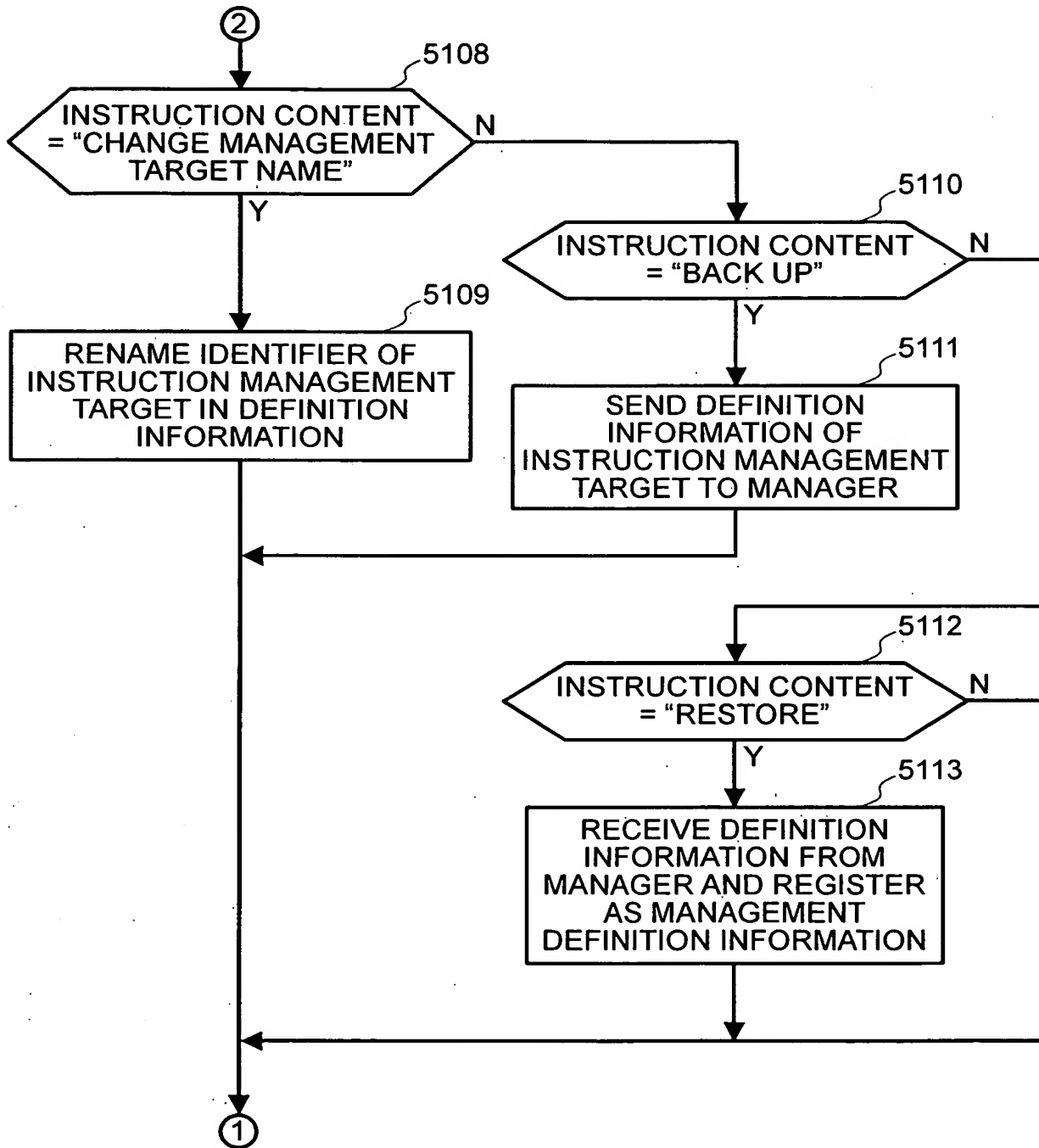
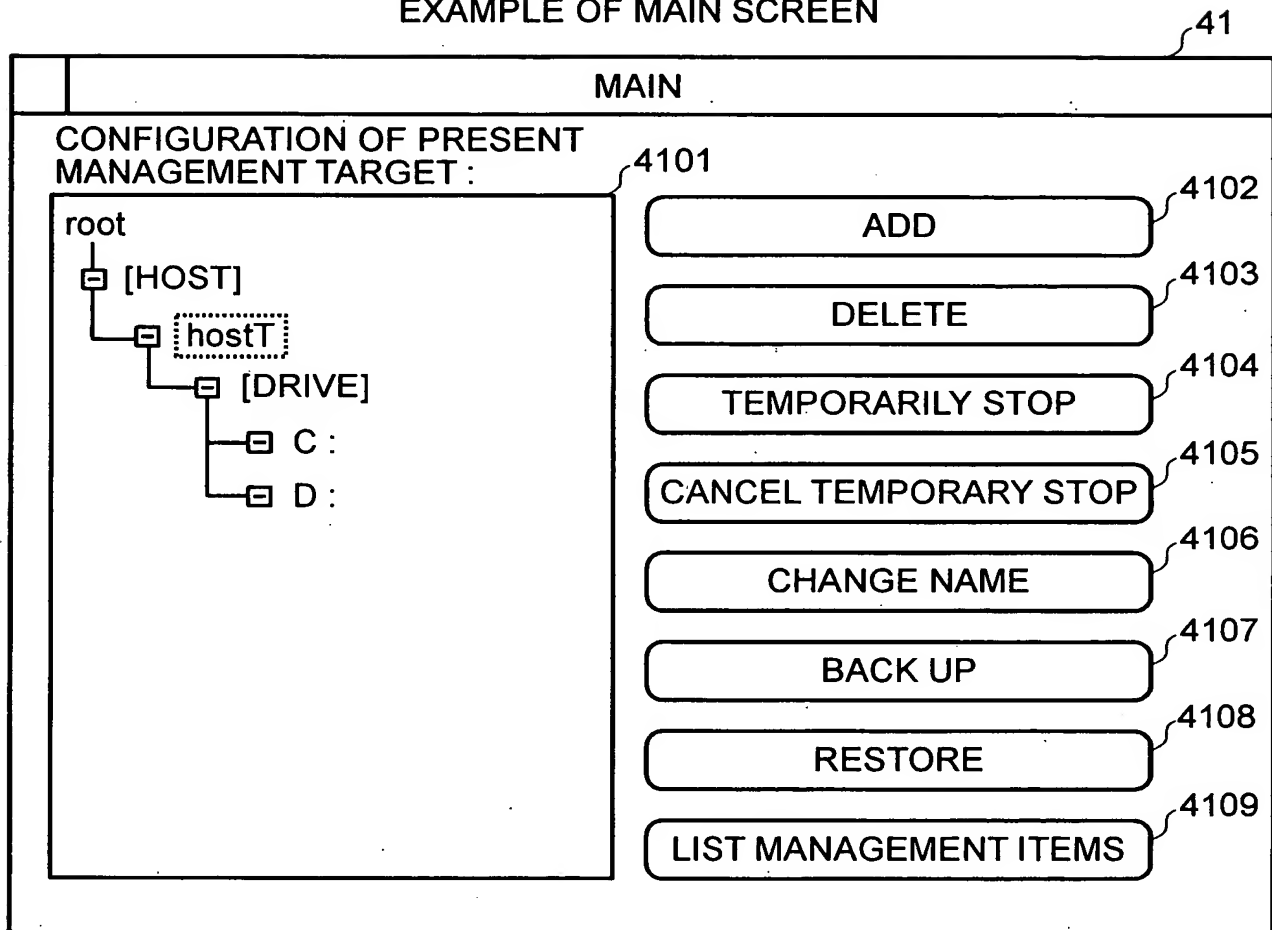


FIG.10

EXAMPLE OF MAIN SCREEN



Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 8 of 16

FIG.11

EXAMPLE OF MANAGEMENT INFORMATION SCREEN OF
MANAGEMENT TARGET

42

| MANAGEMENT ITEMS PER MANAGEMENT TARGET | | |
|--|----------|--------|
| <div>MANAGEMENT TARGET NAME : HOST TARGET : HOST TARGET : ROOT</div> | | |
| MANAGEMENT TOOL | LOCATION | STATUS |
| BACKUP SCHEDULER | hostMa | VALID |
| HOST OPERATION MONITOR | hostMb | VALID |
| DISK REPORTER | hostMb | VALID |
| DISK MONITOR | hostMc | VALID |

4203

4204

4210

4206

4207

4208

4209

4205

ADD

DELETE

EDIT

BACK UP

RESTORE

TEMPORARILY STOP

CANCEL TEMPORARY STOP

CLOSE

Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 9 of 16

FIG.12

EXAMPLE OF RESTORE & BACKUP DATA LIST

43

| RESTORE & BACKUP DATA LIST OF MANAGEMENT INFORMATION | | | | | |
|--|-------------------|---------------|------------------------|----------|---------------------------|
| BACKUP ID | MANAGEMENT TARGET | | MANAGEMENT TOOL | | DATE AND TIME OF CREATION |
| | IDENTIFIER | TYPE LOCATION | TYPE | LOCATION | |
| BACKUP1 | hostT | HOST root | HOST OPERATION MONITOR | — | 2003/01/15 12:00 |
| BACKUP1 | D : | HOST root | DISK MONITOR | hostT | 2003/01/15 12:00 |

4301

EXECUTE RESTORE

DELETE DATA

RETURN

4302

4303

4304

Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400!JS

Sheet 10 of 16

FIG.13

MANAGEMENT TARGET CONFIGURATION INFORMATION

| MANAGEMENT TARGET CORRESPONDING TO CHILD | | | MANAGEMENT TARGET CORRESPONDING TO PARENT | | |
|---|-------|----------|--|------|----------|
| IDENTIFIER | TYPE | LOCATION | IDENTIFIER | TYPE | LOCATION |
| hostT | HOST | — | — | — | — |
| C: | DRIVE | hostT | hostT | HOST | — |
| D: | DRIVE | hostT | hostT | HOST | — |

FIG.14

OPERATIONS MANAGEMENT INFORMATION

| MANAGEMENT TARGET | | | MANAGEMENT TOOL | | |
|-------------------|-------|----------|------------------------|----------|--------|
| IDENTIFIER | TYPE | LOCATION | TYPE | LOCATION | STATUS |
| hostT | HOST | — | HOST OPERATION MONITOR | hostMb | VALID |
| C: | DRIVE | hostT | DISK MONITOR | hostT | VALID |
| C: | DRIVE | hostT | DISK REPORTER | hostMb | VALID |
| C: | DRIVE | hostT | BACKUP SCHEDULER | hostMa | VALID |
| D: | DRIVE | hostT | DISK MONITOR | hostT | VALID |
| D: | DRIVE | hostT | DISK REPORTER | hostMb | VALID |
| D: | DRIVE | hostT | BACKUP SCHEDULER | hostMa | VALID |

Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 11 of 16

FIG.15

BACKUP DATA MANAGEMENT TABLE

| BACKUP ID | MANAGEMENT TARGET | | MANAGEMENT TOOL | | DATA STORAGE DESTINATION FILE NAME | DATE AND TIME OF CREATION |
|-----------|-------------------|------|-----------------|------------------------|--|---------------------------|
| | IDENTIFIER | TYPE | LOCATION | TYPE | | |
| BACKUP1 | hostT | HOST | root | HOST OPERATION MONITOR | d:\BACKUP1\01a.dat d:\BACKUP1\01b.dat | 2003/01/15 12:00 |
| BACKUP1 | D : | HOST | root | DISK MONITOR | d:\BACKUP1\02a.dat d:\BACKUP1\02b.dat | 2003/01/15 12:00 |

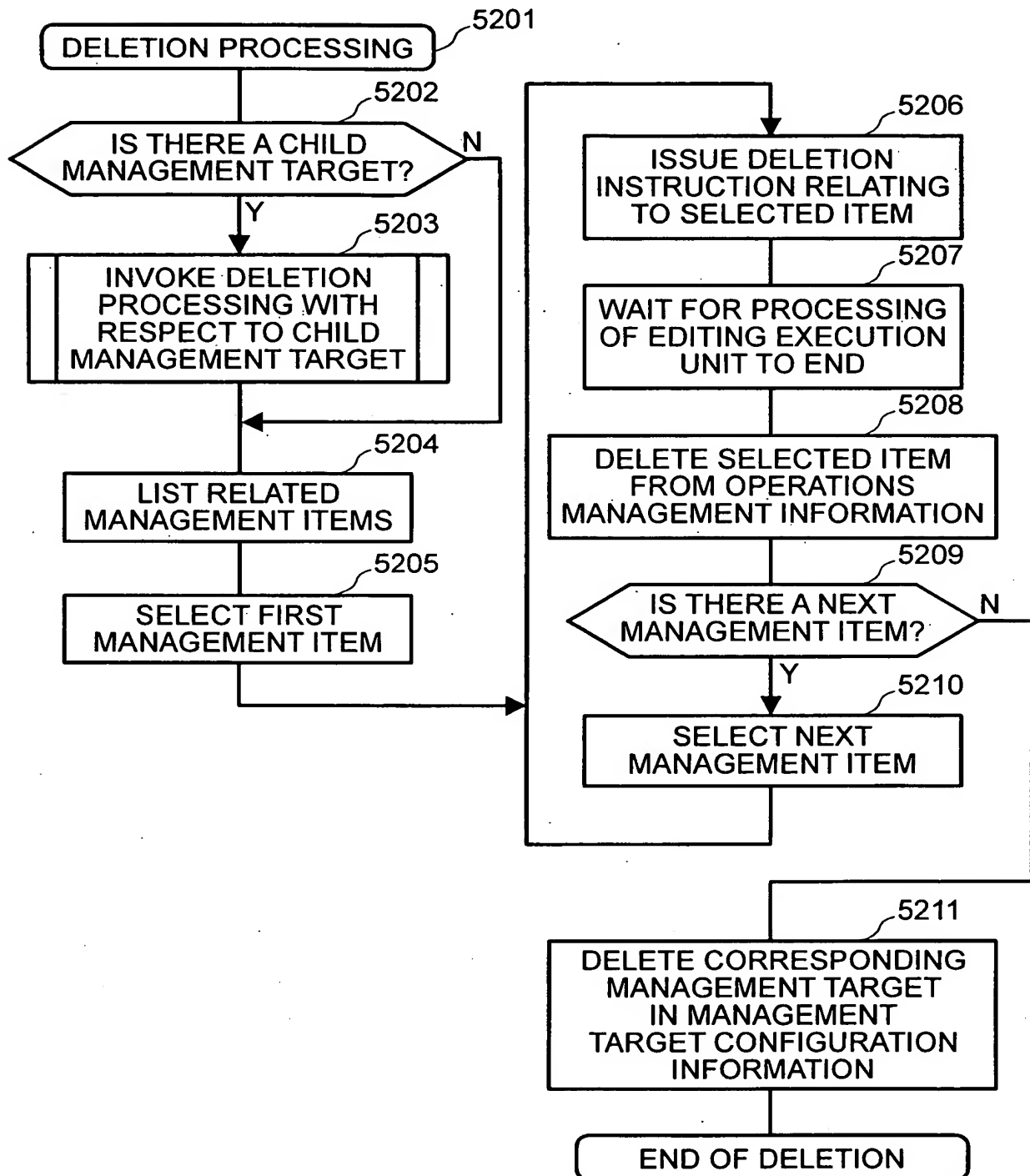
37

Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 12 of 16

FIG.16**FLOW CHART OF EDITING INSTRUCTION UNIT : DELETION**

Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 13 of 16

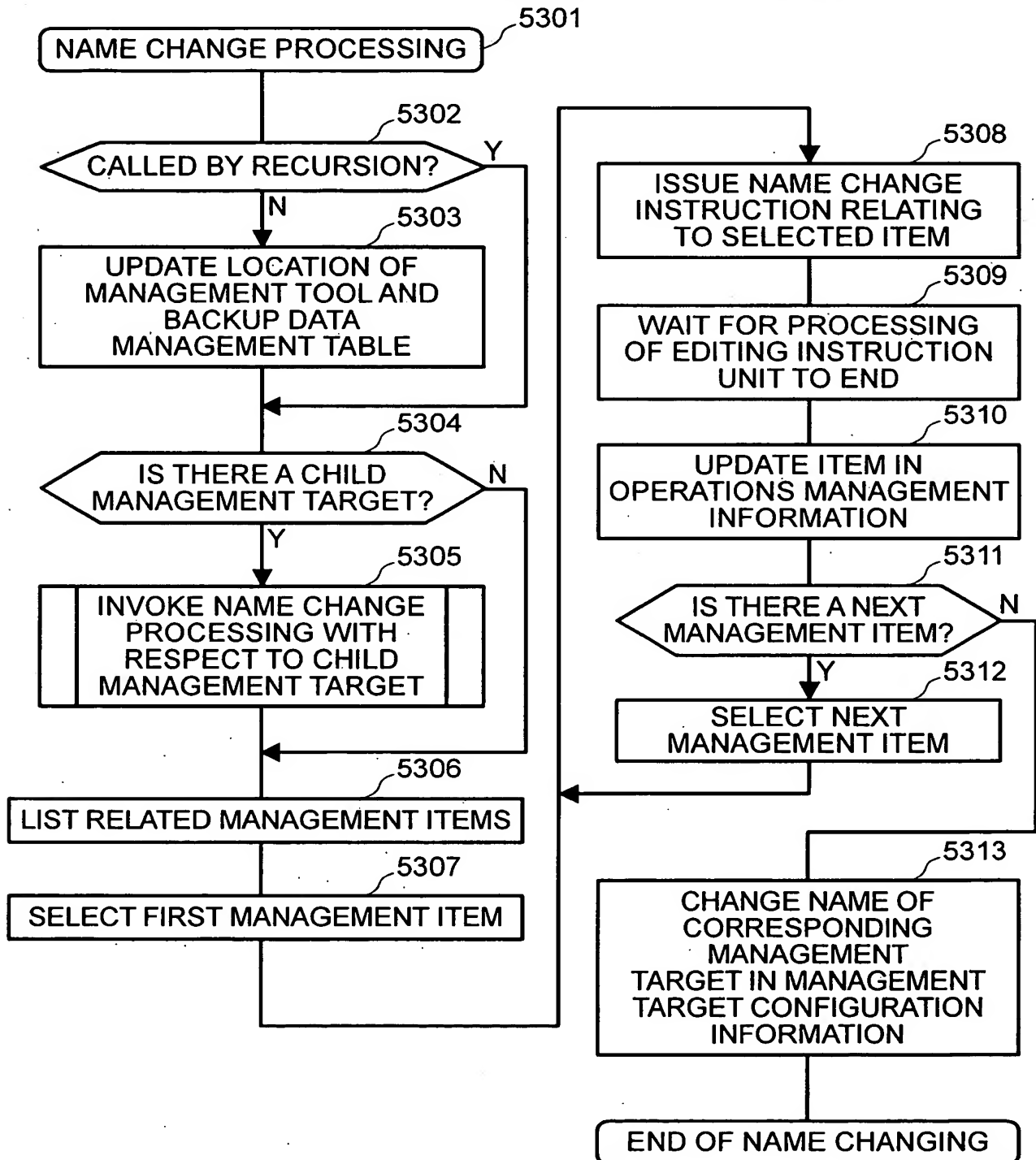
FIG.17**FLOW CHART OF EDITING INSTRUCTION UNIT : NAME CHANGE**

FIG.18

MANAGEMENT TOOL DISPOSITION INFORMATION

38

| LOCATION OF MANAGEMENT TOOL | TYPE OF MANAGEMENT TOOL |
|-----------------------------|-------------------------|
| hostMa | BACKUP SCHEDULER |
| hostMb | DISK REPORTER |
| hostMb | HOST OPERATION MONITOR |
| hostT | DISK MONITOR |

FIG.19

MANAGEMENT TOOL CHARACTERISTIC INFORMATION

39

| TYPE OF MANAGEMENT TOOL | LIMITED TO SAME HOST |
|-------------------------|----------------------|
| BACKUP SCHEDULER | NO |
| DISK REPORTER | NO |
| HOST OPERATION MONITOR | NO |
| DISK MONITOR | YES |

Applicant: Kenichi KIHARA, et al.

Title: Control System and Method for Management Items

Attorney Docket No. 16869P-096400US

Sheet 15 of 16

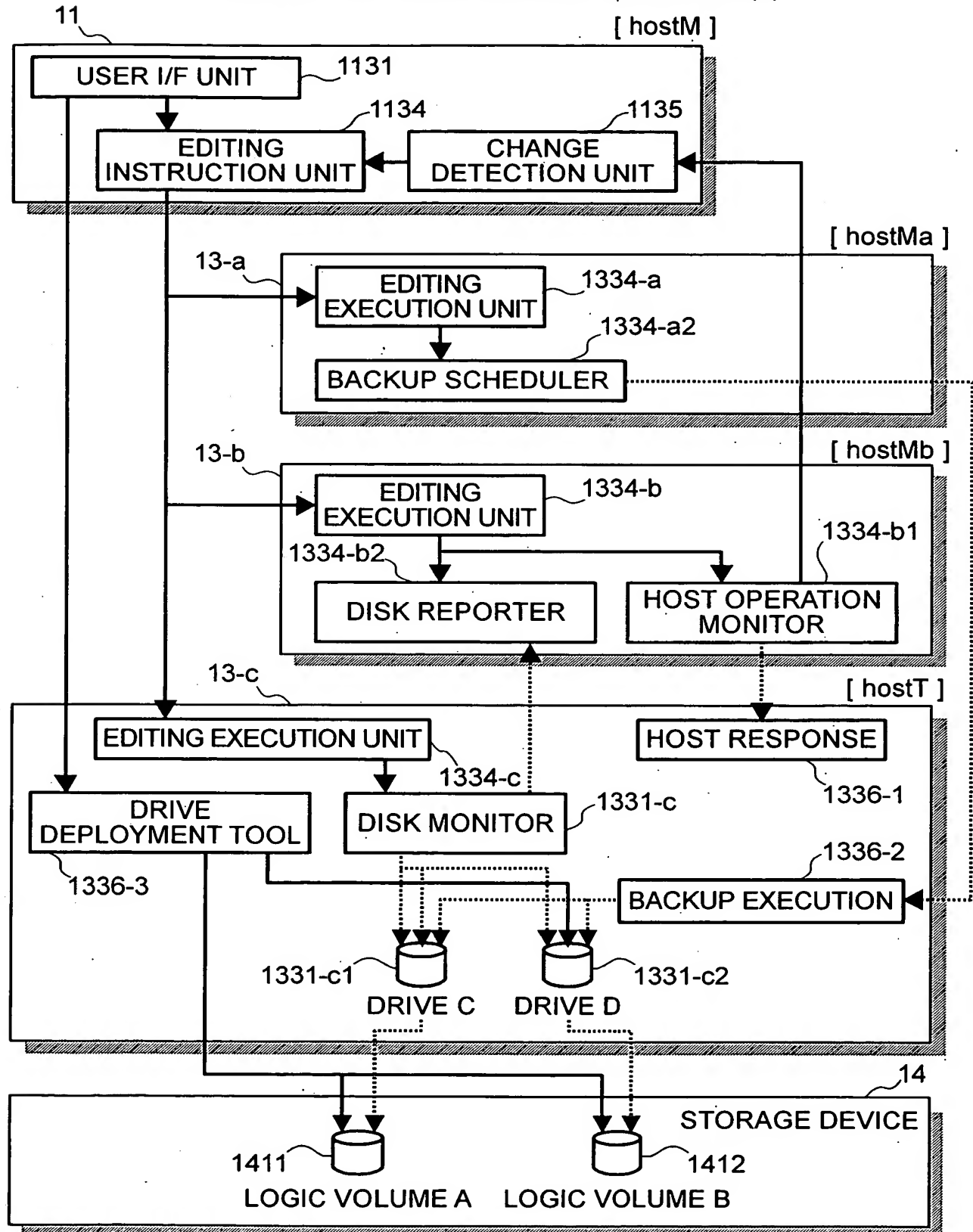
FIG.20**EXAMPLE OF SYSTEM CONFIGURATION (2)**

FIG.21

SETTING SCREEN FOR DRIVE ADDITION

44

| ADDITION OF DRIVE | |
|---|---|
| DRIVE NAME : | <input type="text" value="E :"/> 4401 |
| ODO NOT CREATE DRIVE BODY 4402 | |
| <input checked="" type="radio"/> CREATE DRIVE BODY 4403 | |
| TYPE : | <input type="text" value="TYPE1"/> 4404 |
| CAPACITY : | <input type="text" value="10GB"/> 4405 |
| <div>OK 4406 CANCEL 4407</div> | |